

BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Certificate in Information Technology Pearson BTEC International Level 3 Subsidiary Diploma in Information Technology Pearson BTEC International Level 3 Foundation Diploma in Information Technology Pearson BTEC International Level 3 Diploma in Information Technology Pearson BTEC International Level 3 National Extended Diploma in Information Technology
Unit number and title	Unit 10: Big Data and Business Analytics
Learning aim(s) (For NQF only)	B: Explore the statistical software tools and techniques used to analyse data in organisations
Assignment title	
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have recently started an internship at an educational charity. The director of the charity is interested in how big data and data analytics might be used by the organisation to improve the way they target their efforts so that the work they do can be as effective as possible. Following the report you produced on the topic the director has asked you to look into the statistical tools and techniques which can be used to analyse data.
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Task 1	The charity is looking into how progression through and completion of different stages of education as well as youth and literacy rates within different countries. Some data on international education can be found here: https://en.unesco.org/gem-report/node/6 You should use this data to carry out an analysis and evaluation using: • routine and non-routine central tendency • dispersion and probability distribution operations, • routine and non-routine regression operations identifying those countries which perform better than average and those which perform worse and how this differs by age and gender.
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	You will write up the results of your investigations in the form a report. Your report needs to show that you have: • Tabulated grouped data and generate fully annotated pie charts, bar charts and histograms. • Accurately calculated representative values for central tendency and evaluate the usefulness of the values in relation to the distribution of data. • Accurately calculated variance, standard deviation, range, interquartile and inter-percentile values of normally distributed data and explained the meaning of each. You have carry out a t-test on two sets of data and evaluate the relevance of the result. • Used the given data to accurately determine the equation of linear regression and correlation coefficient. • Compared the predicted value of the dependent variable with the value obtained from the graph for a non-measured value, in relation to the value of the correlation coefficient. • Justified the choice of regression type for a non-linear relationship, such as a power relationship. Your report should be easily understood by a third party with a mathematical background and should include correct use of mathematical terminology and application of relevant units.
Checklist of evidence required	Results of the analysis. Written evaluation report.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
B.D2	Evaluate the correct synthesis and accurate application of routine and non-routine statistical, and probability operations using calculations and appropriate software to solve problems.
B.M2	Solve problems accurately for a dataset involving routine and non-routine central tendency, dispersion and probability distribution operations, using software.
B.M3	Solve problems accurately for a dataset involving routine and non-routine regression operations, using software.
B.P2	Solve problems for a dataset involving routine central tendency, dispersion and probability distribution operations, using software.
B.P3	Solve problems for a dataset involving routine linear regression operations, using software.
Sources of information to support you with this Assignment	Marr B. Big Data: Using Smart Big Data, Analytics and Metrics to Make Better Decisions and Improve Performance. John Wiley & Sons, Ltd. 2015. 978-1118965832 Cody, I.D. Data Analytics: Practical Data Analysis and Statistical Guide to Transform and Evolve Any Business Create Space Independent Publishing Platform. 2016 978-



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Other assessment materials attached to this Assignment Brief	<i>e.g. work sheets, risk assessments, case study</i>